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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:
Masao OZEKI, et al.

SERIAL NO: 10/658,473 GROUP: 2871

FILED: September 10, 2003 EXAMINER:

FOR: COMPOSITE DISPLAY DEVICE AND A METHOD FOR DRIVING THE SAME

LETTER

Mail Stop DD
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith is a European Office Action for the Examiner's consideration. The reference(s) cited therein have been previously filed on January 30, 2004.

Respectfully Submitted,

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Application No.	Ref.	Date
03 020 416.8 - 2205	O 1355EU - ro	09.06.2004
Applicant: Optrex Corporation		

Communication pursuant to Article 96(2) EPC

The examination of the above-identified application has revealed that it does not meet the requirements of the European Patent Convention for the reasons enclosed herewith. If the deficiencies indicated are not rectified the application may be refused pursuant to Article 97(1) EPC.

You are invited to file your observations and insofar as the deficiencies are such as to be rectifiable, to correct the indicated deficiencies within a period

of 4 months

from the notification of this communication, this period being computed in accordance with Rules 78(2) and 83(2) and (4) EPC.

One set of amendments to the description, claims and drawings is to be filed within the said period on separate sheets (Rule 36(1) EPC).

Failure to comply with this invitation in due time will result in the application being deemed to be withdrawn (Article 96(3) EPC).

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AMMERLAHN D
Primary Examiner
for the Examining Division

Enclosure(s): 5 page/s reasons (Form 2906)

Registered Letter
EPO Form 2001 07.02CSX

The examination is being carried out on the **following application documents:**

Description, pages:
1-73 as originally filed

Claims, No.:
1-16 as originally filed

Drawings, sheets:
1/30-30/30 as originally filed

1 The following documents are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

filed on 01/30/04

D1: DE-A-4407855;
D2: DE-A-10001988;
D3: DE-A-3120601;
D4: WO-A-02059691;
D5: EP-A-0928117;
D6: US-A-5337068.

2 The application does not meet the requirements of Article 84 EPC, because claims 1, 3 and 4 are not clear.

2.1 Claim 1 defines a composite display comprising a first display member and a second display member. Claims 3 and 4 specify the first display member as being a mirror, a gauge, a person or a physical body, thereby rendering claims 1, 3 and 4 unclear since a "display member" clearly denotes a kind of display, but certainly not a person or a physical body. Also a mirror cannot be regarded as being a "display member" since it only reflects something which is displayed elsewhere. Therefore, these features cannot be regarded as limiting claims 3 and 4. Claim 4 should be deleted and claim 3 should only refer to the first display member as being a gauge.

3 The present application does not meet the requirements of Article 52(1) EPC, because the subject-matter of claims 1, 3, 4 and 9 is not new in the sense of Article 54(1) and (2) EPC.

3.1 Document D1 discloses in Figure 1 a composite display device comprising

a) a first display member (3) and

b) a second display member (6) disposed between the first display member and an observation point (to the right of the second display member 6);

c) wherein the second display member comprises an electro-optical element (liquid crystal display 6) which transmits light under application of no voltage and scatters light under application of a voltage (abstract, lines 4-6); and

d) wherein the light transmittance under application of no voltage is at least 80% (implicitly disclosed since otherwise the first display member could not be viewed unimpededly; column 2, lines 33-36).

Therefore, document D1 discloses a composite display device having all the features of claim 1.

The first display member comprises a gauge ("Messwerk" 5). Therefore, also claims 3 and 4 are anticipated by D1 (see item 2.1 above).

The composite display of D1 furthermore includes an illumination means (7) and a battery for applying a voltage to the electro-optical element (implicitly disclosed since a voltage is applied). Therefore, also claim 9 is not novel with respect to D1.

4 The present application does not meet the requirements of Article 52(1) EPC, because the subject-matter of claims 1-16 does not involve an inventive step in the sense of Article 56 EPC.

4.1 Document D2 discloses in Figure 1 a composite display device comprising

a) a first display member ("Anzeigeninstrumente" 2 and 3) and

b) a second display member (10) posed between the first display member and an observation point;

c) wherein the second display member comprises an electro-optical element ("LCD-Anzeige", column 2, lines 12-18); and

d) wherein the light transmittance in a light transmission state is at least 80% (implicitly disclosed since otherwise the first display member could not be viewed unimpededly; column 2, lines 8-12).

In D2, the LCD is not further specified. It is in particular not mentioned in D2 if the LCD is arranged to transmit light under application of no voltage and scatters light under application of a voltage. However, such kind of LCD's are well known in the art of information displays in dashboards, e.g. from D3 (Figures 1 and 3; page 5, lines 2-6), and would obviously be considered by a skilled person as an appropriate LCD for the device of D2, thereby arriving without involving an inventive step at a composite display having all the features of claim 1.

The first display of D2 is a gauge ("Anzeigeninstrumente" 2 and 3). Therefore, also claims 3 and 4 are not inventive (see item 2.1 above).

Furthermore, D3 discloses an illumination means (Figure 4: 9) and a battery for applying a voltage to the electro-optical element (implicitly disclosed since a voltage is applied). Therefore, also claim 9 is suggested by the combination D2+D3.

4.2 As to claim 2, the haze value in the scattering state is not mentioned in D1, D2 or D3. However, the value defined in claim 2 appears to be within the expectable range for the type of LCD's disclosed in D1 and D3. Therefore, claim 2 is not inventive.

As to claim 10, antireflection films and ultraviolet ray shielding films are well known in the art of liquid crystal displays and would be applied by a skilled person to the electro-optical element of the devices of D1 or D2+D3 if circumstances make it desirable. Therefore, also claim 10 is not inventive.

4.3 Claim 5 differs from the devices of D1 and D2+D3 only in that a plurality of second display members is defined. However, stacks of equal liquid crystal displays are well known in the art of 3D image generation, e.g. from D4 (Figure 2) or D5 (Figure 2). Such kind of devices sequentially activate one of the different LCD layers, each representing a cross-section of a 3D image, while all the other LCD

layers remain transparent, such that a viewer has the impression of a real three-dimensional image. A skilled person, who wants to display 3D images or moving images instead of two-dimensional images as in D1 or D2+D3, would obviously think of applying the technique of D4 or D5 to the devices of D1 or D2+D3 by utilising a stack of equal liquid crystal displays such as in D4 or D5, thereby arriving without involving an inventive step at a composite display having all the features of claims 5 and 6.

As to claims 7 and 11, polymer dispersed liquid crystal displays are used in D5 (paragraph [0042]) and mentioned in D4 (page 2, lines 16-19). Such kind of displays are state of the art, and also adhesive spacers are generally known in the art. Therefore, also claims 7 and 11 cannot be regarded as involving an inventive step.

4.4 Claims 12-14 refer to colour displays, wherein the light source emits at least two colours sequentially and wherein the frames of the liquid crystal cell are correlated with the colour sequence. However, such kind of field sequential colour displays are well known in the art, e.g. from D6 (Figure 2, abstract). The device of D6 emits independently green, blue and red light (column 6, lines 26-29), and each colour is emitted with a frequency of 60 Hz (column 9, lines 33-34). By combination of the three colours, 8 display colours can be generated (column 10, lines 20-23). The application of such kind of field sequential colour display to the device of D1 or D2+D3 would be an obvious option for a skilled person, who wants to display colour images, thereby arriving without involving an inventive step at a composite display having all the features of claims 12-14.

Method claim 15 defines the well known field sequential driving method (see D6), and the composite display devices of D1 or D2+D3 may certainly be used for displaying a speed of an automobile. Therefore, also claims 15 and 16 cannot be regarded as involving an inventive step.

5 It is not at present apparent which part of the application could serve as a basis for a new, allowable claim. Should the applicant nevertheless regard some particular matter as patentable, a new independent claim should be filed. The

applicant should also indicate in the letter of reply the difference of the subject-matter of the new claim vis-à-vis the state of the art and the significance thereof.

5.1 The newly filed independent claim should be in the two-part form based on document D1 (Rule 29(1) EPC). Furthermore, reference signs to the Figures should be inserted in the new claims (Rule 29(7) EPC). To meet the requirements of Rule 27(1)(b) EPC, documents D1-D6 should be identified in the description and the relevant background art disclosed therein should be briefly discussed.

5.2 When filing amended claims, the applicant should at the same time bring the description into conformity with the amended claims. Care should be taken during revision, especially of the introductory portion and any statements of problem or advantage, not to add subject-matter which extends beyond the content of the application as originally filed (Article 123(2) EPC).

5.3 In order to facilitate the examination of the conformity of the amended application with the requirements of Article 123(2) EPC, the applicant is requested to clearly identify the amendments carried out, irrespective of whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based.

If the applicant regards it as appropriate these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.